

REMARKS

The Office Action of September 14, 2007, and the cited art have been carefully considered. The recognition of allowable subject matter in claims 2, 3, 8 and 9 is gratefully acknowledged. The application has been amended to eliminate unnecessary limitations and to correct grammatical and similar errors. Reconsideration of the rejection of the application is respectfully requested based on the amendments and following discussion.

REJECTION 102:

1. Claims 1-6, 8-13 and 15-20 were rejected under 35 USC 102(b) as anticipated by Lenz US 2004/0135511.

Lenz '511 shows an electrode structure with a filament winding formed on the end of the electrode shank 16. The filament is unidentified in all views, but is apparent to those skilled in the art as the winding attached to the discharge end of the electrode shank 16. The filament and the shank 16 are separate mechanical items, made of separate materials. Shank 16 is tungsten (par. 0031, line 4) The filament is tightly wound on the shank. Lenz' '511 further shows a connection winding 10, 23, 33 wound on the shank 16 near the base of the shank. The connection winding 10, 23, 33 is made of molybdenum (par. 0034, last line; par. 0035, last line). Again the connection winding and the shank are separate mechanical elements with the connection winding tightly wound on the shank. The connection winding is made from molybdenum because it has nearly the same thermal expansion characteristic of the quartz, or ceramic material to which it is sealed. The tungsten shank has a differing thermal expansion and does not seal well to the quartz or ceramic. The shank must be made of tungsten to sustain the very high electrode tip temperature where the arc attaches. Molybdenum must then be used as the interface to the quartz to match the thermal expansions. Tungsten must then be used as the electrode. It is then a necessary feature of the Lenz lamp that the connection winding and the shank cannot be the same material.

The Office Action suggests the filament winding and the shank and the connection winding are all of one piece. This is not true. As disclosed by Lenz the shank is tungsten, and the connection winding is molybdenum. This is not new. This is common practice, and understood to be good engineering by lamp designers. Lenz discloses a separate shank, a separate filament and a separate connection winding - three pieces. They cannot be one piece as discussed. No one knows how to make them as a single piece that can be sealed to quartz and endure the tip temperature. The Examiner's imaginative reading is an invention not yet

achieved. The filament and the winding in Lenz are not the same entities. They are not parts of the shank. They are not integrally connected by a spacer.

Lenz '511 fails to provide a prima facie case of invalidity under 35 USC 102, since Lenz '511 fails to show, suggest, state or claim a limitation included in Applicants' claims. Lenz '511 fails to teach the **"...filament (5) and winding (11) are integrally connected to one another via a spacer (41)..."**. Withdrawal of the rejection and reconsideration of the rejected claims are therefore respectfully requested.

REJECTION 103:

2. Claim 7 was rejected under 35 USC 103 over US Lenz '511 in view of Huettinger US 6,075,314.

The rejection of Claim 7 as being unpatentable under 35 U.S.C. 103 as being obvious over the combination of Lenz '511 in view of Huettinger '314 is respectfully traversed and reconsideration thereof is requested.

Huettinger '314 shows an electrode structure with an integral connection part and shank. Huettinger '314 fails to teach the **"...filament (5) and winding (11) are integrally connected to one another via a spacer (41)..."**.

Huettinger uses a separate filament winding and a separate connection winding. Neither Lenz '511 nor Huettinger '314 shows, teaches or suggests the connection of the filament to the connection winding by a spacer element. In combination, Lenz '511 and Huettinger '314 cannot show, teach or suggest the connection by a spacer element when neither shows the spacer element.

3. Claim 14 was rejected under 35 USC 103 over US Lenz '511 in view of Matthews US 5,357,167.

The rejection of Claim 14 as being unpatentable under 35 U.S.C. 103 as being obvious over the combination of Lenz '511 in view of Matthews '167 is respectfully traversed and reconsideration thereof is requested.

Matthews '167 shows an electrode structure with a filament winding formed on the shank. Matthews '167 fails to teach the **"...filament (5) and winding (11) are integrally connected to one another via a spacer (41)..."**.


Matthews '167 uses two filament windings, one on top of the other. Matthews '167 does not use a connection winding, so Matthews '167 cannot show, teach or suggest connecting a filament winding to a connection winding with a spacer. Neither Lenz '511 nor Matthews '167 shows, teaches or suggests the connection of the filament to the connection winding by a spacer. In combination, Lenz '511 and Matthews '167 cannot show, teach or suggest the connection by a spacer when neither shows the spacer.

In the art cited by the Examiner, the resulting electrode structure and alignment is almost always asymmetrical between the two lamp electrodes. The operation of two lamps can be fairly compared if the electrodes are asymmetrically constructed. Fine tuning of the ballast, lamp fill, envelope structure and so on cannot be fairly compared if the electrodes are inconsistently formed. Consistent lamp operation cannot be achieved if the electrodes are irregular or asymmetrical.

In contrast, the Applicant assures the two windings on the electrodes may be symmetrical constructed and positioned, enhancing the likelihood of consistent operation of the lamp. Neither Lenz '511 or Huettinger '314 show, teach or suggest how to consistently position the connection winding relative to the filament winding, locking the two as a consistent unit. The Applicant realized and solved the problem. Withdrawal of the rejection and reconsideration of the rejected claims are therefore respectfully requested.

It is believed that a full and complete response to the Office Action has been made, that the Application as amended is patentably distinct over the cited art, and that the case is now in condition to be passed to issue. Reconsideration of the amended application is therefore requested, and an early favorable notice of allowance is courteously solicited.

Respectfully submitted,

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